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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/826,138

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Jack C. Wybenga

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EXAMINER

SCHEIBEL, ROBERT C

ART UNIT

PAPER NUMBER

2619

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DELIVERY MODE

10/30/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/826,138

Applicant(s)

WYBENGA ET AL.

Examiner

Robert C. Scheibel

Art Unit

2619

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 11-16 and 21-23 is/are rejected.
- 7) ☒ Claim(s) 7-10 and 17-20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claims **1, 11, and 21** are objected to because of the following informalities:

The phrase “capable of” in these claims (four instances in claims 1 and 11 and one instance in claim 21) do not positively recite the limitation(s) which follow this phrase; as such, the claim language suggests or makes optional this limitation, but does not require it. (See MPEP section 2111.04 for more information.) This language should be amended to positively recite these limitations. For example, the phrase “packet processing circuitry capable of exchanging data packets...” in line 6 of claim 1 should be amended to “packet processing circuitry that exchanges data packets...” or the like. Without an amendment such as this to the language, nearly any communications circuitry will read on this limitation as nearly any communications circuitry is *capable of* exchanging data packets (whether or not the art specifically indicates that the circuitry exchanges packets).

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims **3-10, 13-20, and 22** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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The term "substantially" in claims 3, 13, and 22 is a relative term which renders the claim indefinite. The term "substantially" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. This rejection can be overcome by deleting the word substantially from the claims. Claims 4-10 and 14-20 are rejected as they depend from claims 3 and 13, respectively, and thus contain the same issue of indefiniteness.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims **1-6, 11-16, and 21-23** are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 6,393,026 to Irwin.

Regarding claims **1 and 11**, Irwin discloses a router (the router of figure 1) for interconnecting external devices coupled to said router, said router comprising: a switch fabric (element 14 of figure 1); and a plurality of routing nodes (the combination of elements 12 and 18) coupled to said switch fabric, wherein each of said plurality of routing nodes comprises: i) packet processing circuitry (the network interfaces 12 of Figure 1) capable of exchanging data packets with external devices and exchanging data packets with other ones of said plurality of routing nodes via said switch fabric (these interfaces transmit/receive data to/from external devices and pass them to other routing nodes (via the forwarding engines) through the switching

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fabric) and ii) control processing circuitry capable of performing control and management functions (the forwarding engines 18; there are various embodiments of this shown in Figures 2-5, 7, and 10+; as indicated in Figure 10, at least some of the functions performed by the processors that comprise the forwarding engine are control/management functions (metric, congestion, rmon, etc.)), wherein said control processing circuitry comprises: a first network processor capable of performing control and management functions associated with said router (one of processors 110 of Figure 7; or equivalently, one of processors 172 of Figure 10); and a second network processor capable of performing said control and management functions associated with said router (another of processors 110 of Figure 7; or equivalently, another of processors 172 of Figure 10), wherein said control and management functions are dynamically allocated between said first network processor and said second network processor (described throughout in the parallel processing done by the multiple processors 110; see lines 1-17 of column 8, for example).

Regarding claim 21, Irwin discloses a method of distributing control and management functions comprising the steps of: performing a first group of control and management functions in a first network processor (one of processors 110 of Figure 7; or equivalently, one of processors 172 of Figure 10; as indicated in Figure 10, at least some of the functions performed by the processors that comprise the forwarding engine are control/management functions (metric, congestion, rmon, etc.)), wherein the control and management functions in the first group are determined by the contents of a first configuration register of the first network processor (the procedure call forwarded to processor 110 (see lines 1-17 of column 8) is ultimately translated to a program counter in the processor 110 to execute the procedure call; this value in the register

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determines which procedure is run by the first network processor); performing a second group of control and management functions in a second network processor (one of processors 110 of Figure 7; or equivalently, one of processors 172 of Figure 10; as indicated in Figure 10, at least some of the functions performed by the processors that comprise the forwarding engine are control/management functions (metric, congestion, rmon, etc.)), wherein the control and management functions in the second group are determined by the contents of a second configuration register of the second network processor (the procedure call forwarded to processor 110 (see lines 1-17 of column 8) is ultimately translated to a program counter in the processor 110 to execute the procedure call; this value in the register determines which procedure is run by the first network processor); and re-allocating control and management functions between the first network processor and the second network processor according to a first level of activity of control and management functions in the first network processor relative to a second level of activity of control and management functions in the second network processor (see lines 56-60 of column 6 and lines 3-6 of column 8 which indicate that the processors are selected based on the relative load currently on each processor).

Regarding claims **2 and 12**, Irwin discloses the limitation that said control and management functions are dynamically allocated between said first network processor and said second network processor according to a first level of activity of control and management functions in said first network processor relative to a second level of activity of control and management functions in said second network processor (see lines 56-60 of column 6 and lines 3-6 of column 8 which indicate that the processors are selected based on the relative load currently on each processor).

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Regarding claims **3, 13, and 22**, Irwin discloses the limitations that said first network processor is controlled by first control software code and said second network processor is controlled by second control software code substantially identical to said first control software code (see lines 25-29 of column 4 and lines 61-64 of column 7 which indicate that the same procedures are loaded onto each processor 110).

Regarding claims **4 and 14**, Irwin discloses the limitation that said first network processor determines a first group of control and management functions allocated to said first network processor by examining a configuration register associated with said first network processor (the procedure is forwarded to the selected computing node 110 (see lines 1-17 of column 8, for example); the processor then loads the corresponding program counter into its program counter register to indicate the procedure to be run by the processor; a register such as a program counter register is inherent to all processors.)

Regarding claims **5 and 15**, Irwin discloses the limitation that said second network processor determines a second group of control and management functions allocated to said second network processor by examining a configuration register associated with said second network processor (the procedure is forwarded to the selected computing node 110 (see lines 1-17 of column 8, for example); the processor then loads the corresponding program counter into its program counter register to indicate the procedure to be run by the processor; a register such as a program counter register is inherent to all processors).

Regarding claims **6, 16, and 23**, Irwin discloses the limitation that a first one of said control and management functions may be re-allocated from said first group of control and management functions to said second group of control and management functions by modifying

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the contents of said first configuration register and said second configuration register (as indicated above, the program counter register is modified to point to the selected procedure which indicates that the selected procedure should be run.)

Allowable Subject Matter

6. Claim 7-10 and 17-20 would be allowable if rewritten to overcome the rejection under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert C. Scheibel whose telephone number is 571-272-3169. The examiner can normally be reached on Mon and Thurs (6:30-5:00) and Fri (6:30-12:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wing F. Chan can be reached on 571-272-7493. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PCS 10-26-07
Robert C. Scheibel
Patent Examiner
Art Unit 2619

Wing Chan
10/26/07
WING CHAN
SUPERVISORY PATENT EXAMINER